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Pesticide Fact Sheet Number 178
Strychnine Update

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16. Abstract (Limit: 200 words)

This document contains up-to-date chemical information, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the the following actions has occurred.

1. Issuance or reissuance of a registration standard,
2. Issuance of each special review document,
3. Registration of a significantly changed use pattern,
4. Registration of a new chemical, or
5. An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.

17. Document Analysis a. Descriptors

Pesticides, regulations, Chemical Information Fact Sheet, Use Patterns, science findings.

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

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EPA

Pesticide Fact Sheet

Name of Chemical: STRYCHNINE UPDATE
Reason for Issuance: TEMPORARY CANCELLATION ABOVE GROUND USES
Date Issued: SEPTEMBER 28, 1988
Fact Sheet Number: 178

1. DESCRIPTION OF CHEMICAL

Generic Name: Strychnine Alkaloid $C_{21}H_{22}N_2O_2$
(chemical) Strychnine Sulfate $C_{21}H_{22}N_2O_2)H_2SO_4+SH_2O$

Common Name: Strychnine

Trade and
Other Names: Nux Vomica

EPA Shaughnessy Code: Strychnine Alkaloid 076901-8
Strychnine Sulfate 076902-6

Chemical Abstracts Service (CAS) Number:

Strychnine Alkaloid 57-24-0

Pesticide Type: Vertebrate pesticide.

U.S. and Foreign Producers: All manufacturers import the technical grade material. Importers include H. Interdonati, Inc.; H. R. Harkins, Inc.; Noris Chemical Co.; and the U.S. Department of Agriculture (USDA). There are approximately 100 registrants of end-use products (37 registrants include the California Department of Food and Agriculture, and California counties).

2. USE PATTERNS AND FORMULATIONS:

There are 383 products; 194 are registered for use above ground and 189 are registered for use below ground. The approximately 200 use sites include rangelands, pastures, many crops, forests, and below ground application for pocket gophers and moles.

Formulation Types: Strychnine is usually formulated in grain baits at 0.2% to 0.5% but is also incorporated into a salt block at 5.79%.

3. AGENCY ACTION:

On August 23, 1988, the Eighth Circuit Court of Appeals denied EPA's motion for a stay of an April 11, 1988, order of the U.S. District Court for the District of Minnesota requiring EPA to temporarily cancel all strychnine registrations for above-ground use to protect non-target species. Accordingly, the Agency is issuing a Federal Register (FR) notice to implement the court's order. Since temporary cancellation is not a remedy available under FIFRA, the FR notice identifies the court as the authority for the temporary cancellation action. The District Court has reviewed the FR Notice and has no objection to the issuance of the notice. The FR notice was signed on September 28, 1988 by the Aministrator and it is to be issued in the Federal Register on Wednesday, October 5, 1988.

4. BACKGROUND

In 1976, EPA initiated a Special Review [formerly Rebuttable Presumption Against Registration (RPAR)] of the above-ground uses of the pesticide strychnine in which the risks and benefits of strychnine use were examined in detail. This review process was concluded on October 19, 1983, with the publication of a Notice of Intent to Cancel. That Notice allowed for continued registration of certain above-ground uses of strychnine with certain label modifications and required full cancellation of other uses. The primary concern of the Agency in making its risk/benefit determinations was risk to non-target, endangered, and threatened species. Prior to issuance of the Notice, EPA had consulted with the Fish and Wildlife Service under section 7 of the Endangered Species Act.

An administrative hearing was requested for the uses to control prairie dogs, ground squirrels and meadow mice. The remaining uses addressed in the Notice of Intent to Cancel were either amended to comply with the terms of the Notice or were cancelled by operation of law. The cancellations did not become effective for the three uses involved in the hearing.

After the administrative hearing began, settlement discussions occurred. In the summer of 1986, a settlement was reached allowing for the continued (with certain label modifications to protect non-target species) registration of strychnine for above-ground use to control prairie dogs, ground squirrels and meadow mice. All parties agreed to the settlement except the Defenders of Wildlife and the Sierra Club. The settlement was based on a new (1984) biological opinion issued by the Fish and Wildlife Service in which it was determined that aboveground strychnine use could continue without jeopardizing the blackfooted ferret if certain protective measures were taken. The blackfooted ferret was the species of most concern in regard to strychnine use.

In August 1986, the Defenders of Wildlife and the Sierra Club filed suit against EPA in the United States District Court for the District of Minnesota. In the suit they alleged that continued registration of strychnine for above-ground use would result in takings of protected wildlife under the Endangered Species Act, the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. In January 1987, Defenders of Wildlife provided certain information to the Agency regarding deaths of non-target wildlife from strychnine use (the "non-target kill book"). In March 1987, EPA issued a new Notice of Intent to Cancel which reflected the terms of the settlement agreement and allowed the continued use of strychnine to control prairie dogs, ground squirrels, and meadow mice under specific terms and conditions. The Agency informed the Defenders of Wildlife that it would review the information regarding non-target deaths, but did not want to hold up the issuance of the March 1987 Notice because it contained significant measures to protect non-target species.

The "non-target kill book" information was referred to the Fish and Wildlife Service and EPA requested a new biological opinion regarding the above-ground use of strychnine. In May and June, 1988 the Fish and Wildlife Service issued new biological opinions on above-ground use of strychnine. These opinions currently are being reviewed by EPA as part of a reassessment of the risks and benefits posed by above-ground use of strychnine.

In 1984, 1986 and 1987 the Agency sent Data Call-In (DCI) notices to the registrants of strychnine. The information required to be submitted to the Agency includes residue chemistry, toxicology, environmental fate, environmental safety, and efficacy data. The deadlines were extended in December, 1987. The Agency is reviewing progress made toward fulfilling the DCI requirements to determine what future regulatory action may be appropriate.